UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,807	10/17/2003	Juha Ella	944-005.016	9730

4955 7590 10/20/2006

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN, BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER	
WEST, LEWIS G	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 10/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,807	ELLA ET AL.	
	Examiner	Art Unit	
	Lewis G. West	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,25-27,32-39* is/are rejected.

7)☒ Claim(s) *11-24, 28-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 25-26, 32-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Rousu (US 2003/0114188)

Regarding claim 1, Rousu discloses a transceiver front end comprising: a first feed point, configured for connecting to a first antenna, for conveying communication signals in a first frequency band, in a first signal path via the first antenna; and a second feed point, configured for connecting to a second antenna electrically separated from the first antenna, for conveying communication signals in a second frequency band in a second signal path, wherein the second frequency band is at least partially overlapping with the first frequency band.(0030-0033)

Regarding claim 2, Rousu discloses the transceiver front-end of claim 1, wherein the first frequency band substantially covers a frequency range of 1930 MHz to 1990 MHz, and the second frequency band substantially covers a frequency range of 1920 MHz to 1980 MHz. (0030-0031)

Regarding claim 25, Rousu discloses a method for use in communications comprising:

operatively connecting a first signal path to the first feed point for conveying communication signals in a first frequency band via the antenna, and operatively connecting a second signal path to the second feed point for conveying communication signals in a second frequency band, wherein the first frequency band is at least partially overlapping with the second frequency band, so that the communication signals in the partially overlapped frequency bands are conveyed via different antennas. (0030-0033)

Regarding claim 26, Rousu discloses the method of claim 25, wherein the first frequency band substantially covers a frequency range of 1930 MHz to 1990 MHz, and the second frequency band substantially covers a frequency range of 1920 MHz to 1980 MHz. (Paragraphs 0030-0031)

Regarding claim 32, Rousu discloses a portable communication device, comprising: a first RF antenna; a second RF antenna electrically separated from the first antenna; and a transceiver front-end having a plurality of signal paths for conveying communication signals in the communication device, including at least a first signal path for conveying a communication signal in a first frequency band, and a second signal path for conveying a communication signal in a second frequency band, which is at least partially overlapped with the first frequency band, wherein the front-end further comprises:

a first feed point, operatively connected to the first antenna, for conveying the communication signals in the first signal path in the communication device via the first antenna;

and a second feed point, operatively connected to the second antenna, for conveying the communication signals in the second signal path in the communication device via the second

antenna so that the communication signals in the partially overlapped frequency bands are conveyed via different antennas. (0030-0033)

Regarding claim 33, Rousu discloses the communication device of claim 32, wherein the front-end further comprises a first module, operatively connected to the first feed point, for disposing the first signal path,

and a second module, operatively connected to the second feed point, for disposing the second signal path. (Figs. 6A, 6B)

Regarding claim 34, Rousu discloses the communication device of claim 32, wherein the first frequency band substantially covers a frequency range of 1920 MHz to 1980 MHz, (W-CDMA; paragraphs 0030-0031),

and the second frequency band substantially covers a frequency range of 1930 MHz to 1990 MHz. (GSM 1900; paragraphs 0030-0031),

Regarding claim 36, Rousu discloses the communication device of claim 32, comprising a mobile phone. (0001)

Regarding claim 37, Rousu discloses the communication device of claim 32, comprising a communicator device. (0004)

Regarding claim 38, Rouso discloses a transceiver front-end module, comprising: means, configured to be connected to a first antenna in a communication device, for conveying communication signals in a first frequency band in a first signal path via the first antenna; and means, configured to be connected to a second antenna in the communication device, for conveying communication signals in a second frequency band in a second signal path, wherein the first antenna is electrically separated from the second antenna and the second frequency band

is at least partially overlapping with the first frequency band and wherein the communication signals in the second frequency are configured to be conveyed in the second signal path via the second antenna so that the communication signals in the partially overlapped frequency bands are conveyed via different antennas.(0030-0033)

Regarding claim 39, Rouso discloses the transceiver front-end of claim 38, comprising: first means, disposed in the first signal path, for filtering the communication signals in the first frequency range; and second means disposed in the second signal path, for filtering the communication signals in the second frequency range. (0025, by changing the resonant frequency of the antenna, the antenna accepts, or filters, different frequencies, thereby providing "means for filtering")

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-10, 27 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rouso (US 20030114188) in view of Klemetti (US 2004/0162107).

Regarding claim 3, Rousu discloses the transceiver front-end of claim 1, as well as suggesting the use of other frequency bands, but does not expressly disclose 1850-1910 HZ and 1805-1880 HZ. Klemetti discloses a multiband transceiver front end wherein the first frequency band substantially covers a frequency range of 1850 MHz to 1910 MHz, and the second

frequency band substantially covers a frequency range of 1805 MHz to 1880 MHz. (Paragraphs 0038-0041) Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the given frequency ranges as they correspond to the transmit and receive ranges of GSM 1800, and on of ordinary skill in the art would have used a standard range of frequencies to promote operability in established systems.

Regarding claim 4, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 3, further comprising a first module, operatively connected to the first feed point, for disposing the first signal path for transmitting the communication signals, and a second module, operatively connected to the second feed point, for disposing the second signal path for receiving the communication signals. (Fig. 5; Paragraphs 0038-0040),

Regarding claim 5, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 4, wherein the second module further comprises a third signal path for reception in a third frequency band different from the second frequency band. (Fig. 5; Paragraphs 0038-0040),

Regarding claim 6, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 5, wherein the third frequency band substantially covers a frequency range between 2110 MHz and 2170 MHz. (Fig. 5; Paragraphs 0038-0040),

Regarding claim 7, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 6, wherein the communication signals in the first and second frequency bands are transmitted in a GSM mode, and the communication signals in the third frequency band are transmitted in a W-CDMA mode. (Fig. 5; Paragraphs 0038-0040),

Regarding claim 8, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 7, wherein the second module further comprises a fourth signal path for transmission substantially in a frequency range of 1920 MHz to 1980 MHz in a W-CDMA mode. (Fig. 5; Paragraphs 0038-0040),

Regarding claim 9, the combination of Rousu and Klemetti discloses the transceiver front-end of claim 8, wherein the first module further comprises a fifth signal path for reception substantially in a frequency range of 1930 MHz to 1990 MHz. (Fig. 5; Paragraphs 0038-0040)

Regarding claim 10, Rousu discloses the transceiver front-end of claim 1, as wesll as covering an additional frequency band on one of the antennas, but does not disclose the specifici frequencies. Klemetti discloses a transceiver front-end covering the given frequencies. (Fig. 5; Paragraphs 0038-0040), therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to cover a frequency range of 1710 MHz to 1785 MHz for transmission, and a second frequency range of 1850 MHz to 1910 MHz for transmission, and the second frequency band substantially covers a third frequency range of 1805 MHz to 1880 MHz for reception as they correspond to the transmit and receive ranges of GSM protocols, and one of ordinary skill in the art would have used a standard range of frequencies to promote operability in established systems.

Regarding claim 27, Rousu discloses the method of claim 25, as well as suggesting the use of other frequency bands, but does not expressly disclose 1850-1910 HZ and 1805-1880 HZ. Klemetti discloses a multiband transceiver front end wherein the first frequency band substantially covers a frequency range of 1850 MHz to 1910 MHz, and the second frequency band substantially covers a frequency range of 1805 MHz to 1880 MHz. (Paragraphs 0038-0041)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the given frequency ranges as they correspond to the transmit and receive ranges of GSM 1800, and on of ordinary skill in the art would have used a standard range of frequencies to promote operability in established systems.

Regarding claim 35, Rousu discloses the communication device of claim 32, as well as suggesting the use of other frequency bands, but does not expressly disclose 1850-1910 HZ and 1805-1880 HZ. Klemetti discloses a multiband transceiver front end wherein the first frequency band substantially covers a frequency range of 1850 MHz to 1910 MHz, and the second frequency band substantially covers a frequency range of 1805 MHz to 1880 MHz. (Paragraphs 0038-0041) Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the given frequency ranges as they correspond to the transmit and receive ranges of GSM 1800, and on of ordinary skill in the art would have used a standard range of frequencies to promote operability in established systems.

Allowable Subject Matter

Claims 11-24 and 28-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis G. West whose telephone number is 571-272-7859. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lewis West
(571) 272-7859